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JUL 26 2006

REMARKS

Claims 1-7, 14, and 17-30 are pending in the application. Applicants hereby amend Claim 14 and add new Claims 21-30. No new matter was added. New Claims 21-30 are supported by the pending method Claims 1-7, 14, and 17-20.

Applicants thank the Examiner for indicating Claim 17 would be allowable if rewritten in independent form including all limitations of the base claim.

In the IDS (Form PTO-1449) submitted on Feb. 1, 2006, the Applicants did not list page numbers because these references were found by a foreign patent office under 37 CFR 197(e)(1), not by the Applicants. Applicants do not know which specific pages of the references may be relevant.

The Office Action rejected Claims 1-2, 6-7, 14 and 20 under 35 U.S.C. §103(a) as being unpatentable over 3GPP (3rd Generation Partnership Project: Technical Specification Group Services & System Aspects; 3GTS 28.062 V1.0.0 (2000-12); pages 1-23; hereinafter as "TS 28.062") in view of Lehtimäki (U.S. 6,125,120).

The Office Action cited pages 11-14 of TS 28.062. These pages of TS 28.062 describe "Tandem Free Operation (TFO)" but do not teach a "method for transmitting wideband speech signals over a narrowband communication system," as recited in Claim 1. These pages do not mention "wideband" or "narrowband." Applicants electronically searched the TS 28.062 document in Word format and did not find the words "narrow" or "wideband."

The Office Action stated that "GSM/3G FR, EFR ... configurations" in TS 28.062 suggest "wideband speech" of Claim 1. But there is no suggestion in TS 28.062 that "GSM FR" (defined on p. 9 as "Full Rate") or "GSM EFR" (defined on p. 9 as "Enhanced Full Rate") are "wideband speech." The word "wideband" was not found in TS 28.062.

The Office Action stated that "inter-PLMN" and Figs. 4.1-1 and 4.2-1 in TS 28.062 suggest "narrowband communication system" and "generating a narrowband digital signal at a base station" of Claim 1. But there is no suggestion in TS 28.062 that "inter-PLMN" and Figs. 4.1-1 and 4.2-1 relate to a "narrowband communication system" or "generating a narrowband digital signal at a base station." The word "narrowband" was not found in TS 28.062.

The Office Action stated "it is obvious that 'wideband speech signal', e.g., MS/UE's over the air speech signal, is carried by frames or packets in the GSM/3G." This statement was not

found in TS 28.062. There is no suggestion in TS 28.062 that the “MS/UEs” in Figs. 4.1-1 and 4.1-2 use wideband speech signals because the word “wideband” was not found in TS 28.062.

The Office Action cited Figs. 4.1-1 and 4.2-1 in TS 28.062 as disclosing “separating the narrowband digital signal from the plurality of data packets at the second base station” in Claim 1. But Figs. 4.1-1 and 4.2-1 in TS 28.062 simply show “Typical Speech Codec Tandem Operation” and “Functional Entities Handling Tandem Free Operation,” respectively. There is nothing in Figs. 4.1-1 and 4.2-1 in TS 28.062 that suggests “separating the narrowband digital signal from the plurality of data packets,” which are “carrying the wideband speech signal,” “at the second base station,” as recited in Claim 1.

The Office Action stated that the “stealing process” in TS 28.062 is similar to “puncturing” in Claim 1. Page 12, section 4.2 of TS 28.062 states “The Transcoders can also exchange TFO messages by stealing the least significant bit in every 16th speech sample.” There is nothing in TS 28.062 that suggests the “TFO messages” are a “plurality of data packets carrying the wideband speech signal,” as recited in Claim 1. Thus, “stealing” in TS 28.062 does not teach “puncturing” in Claim 1.

The Office Action stated that TS 28.062 fails to explicitly disclose how to do “puncturing” in Claim 1 and cited Lehtimäki as an example of “puncturing” in Claim 1.

Lehtimäki’s Abstract discloses “a PCM coded speech signal in which one or more least significant bits of the PCM samples provide a sub-channel for lower-rate vocoded speech containing the same speech information as the PCM samples but in a vo-coded format” (emphasis added). Lehtimäki does not teach “puncturing the narrowband digital signal with the plurality of data packets carrying the wideband speech signal,” from which the narrowband digital signal is generated, as recited in Claim 1. As described in Applicants’ specification (pp. 2, 8-9) and shown in Figs. 2A-3, a “narrowband” version of a “wideband” speech signal contains less speech information than the original wideband speech signal. In contrast, Lehtimäki describes a “sub-channel” carrying a vocoded version of the “same speech information.”

Applicants electronically searched Lehtimäki and did not find the words “narrow” or “wideband.” Thus, Lehtimäki does not teach “generating a narrowband digital signal” from “data packets carrying the wideband speech signals,” as recited in Claim 1.

In addition, Lehtimäki does not teach “separating the narrowband digital signal from the plurality of data packets at the second base station,” as recited in Claim 1.

Thus, the combination of TS 28.062 and Lehtimäki does not teach Claim 1. A prima facie case of obviousness for Claims 1 and 14 has not been established with TS 28.062 and Lehtimäki. Applicant respectfully requests allowance of Claims 1 and 15 and their dependent Claims.

For Claim 2, the Office Action stated that the “stealing” in TS 28.062, section 4.2, page 13 is similar to “puncturing” in Claims 1 and 2. Page 13 of TS 28.062 states “the stealing process will result in embedding a message in the synchronisation pattern of the TFO Frame. When TFO is activated between two end connections using the GSM HR speech codec, the TFO Frames are carried over 8 kbit/s channels mapped onto the least significant bit (LSB) of the 64 kbit/s PCM speech samples.” There is nothing that suggests the “TFO frames” or “TFO messages” in Section 4.2, pages 12-13 of TS 28.062 are a “plurality of data packets carrying the wideband speech signal,” as recited in Claim 1. Thus, “stealing” in TS 28.062 does not teach “puncturing” in Claims 1 and 2.

The Office Action rejected Claims 3-5 under 35 U.S.C. 103(a) as being unpatentable over 3GPP (3rd Generation Partnership Project: Technical Specification Group Services & System Aspects; 3GTS 28.062 V1.0.0 (2000-12); pages 1-23) in view of Lehtimäki, Matti (U.S. 6,125,120) as applied to claims 1-2 and 14 in part 3 rejection above, and further in view of Tseng et al. (U.S. 6,172,974).

Tseng does not teach the elements of Claim 1 that TS 28.062 and Lehtimäki fail to teach, i.e., “method for transmitting wideband speech signals over a narrowband communication system.” Applicants electronically searched Tseng and did not find the words “narrow” or “wideband.” Claims 3-5 depend from Claim 1. Thus, Claims 3-5 should be allowable.

The Office Action rejected Claim 18 under 35 U.S.C. 103(a) as being unpatentable over 3GPP (3rd Generation Partnership Project: Technical Specification Group Services & System Aspects; 3GTS 28.062 V1.0.0 (2000-12); pages 1-23) in view of Lehtimäki, Matti (U.S. 6,125,120) as applied to claims 1-2 and 14 in part 3 rejection above, and further in view of Miet et al. (U.S. 6,681,202).

Miet discloses “wide band speech (100-7000 Hz),” but does not teach the elements of Claim 1 that TS 28.062 and Lehtimäki fail to teach, such as:

“puncturing the narrowband digital signal with the plurality of data packets carrying the wideband speech signal;

transmitting the punctured narrowband digital signal over the narrowband communication system to a second base station;

separating the narrowband digital signal from the plurality of data packets at the second base station; and

forwarding only the plurality of data packets to a second remote station."

Claim 18 depends on Claim 1. Thus, Claim 18 should be allowable.

The Office Action rejected Claim 19 under 35 U.S.C. 103(a) as being unpatentable over 3GPP (3rd Generation Partnership Project: Technical Specification Group Services & System Aspects; 3GTS 28.062 V1.0.0 (2000-12); pages 1-23) in view of Lehtimäki, Matti (U.S. 6,125,120) as applied to claims 1-2 and 14 in part 3 rejection above, and further in view of Takashima et al. (U.S. 5,983,172).

Takashima discloses an acoustic signal "between 50 to 7000 Hz," but does not teach the elements of Claim 1 that TS 28.062 and Lehtimäki fail to teach, such as:

"puncturing the narrowband digital signal with the plurality of data packets carrying the wideband speech signal;

transmitting the punctured narrowband digital signal over the narrowband communication system to a second base station;

separating the narrowband digital signal from the plurality of data packets at the second base station; and

forwarding only the plurality of data packets to a second remote station."

Claim 19 depends on Claim 1. Thus, Claim 19 should be allowable.

CONCLUSION

In view of the remarks presented above, the Applicants respectfully submit that the pending claims are allowable. Accordingly, reconsideration and allowance of this Application is earnestly solicited. Should any issues remain unresolved, the Examiner is invited to telephone the undersigned at the number provided below.

Respectfully submitted,

Dated: July 26, 2006

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